

A Review of the Constraints and Prospects of Shea Butter Processing in Ghana and Burkina Faso

Abu Ibrahim Azebre

Department of Statistics and Actuarial Science, C. K. Tedam University of Technology and Applied Sciences

DOI: <https://doi.org/10.51244/IJRSI.2025.12030025>

Received: 19 February 2025; Accepted: 25 February 2025; Published: 01 April 2025

ABSTRACT

Shea butter, extracted from the nuts of the *Vitellaria paradoxa* tree, holds a crucial position in the global market, particularly within the cosmetics, pharmaceutical, and food industries. This review paper investigates the constraints and prospects of Shea butter processing in Ghana and Burkina Faso, two leading producers. Key challenges include gender inequality, environmental degradation, lack of mechanization, financial and market barriers, and weak institutional support. However, there are substantial opportunities for economic growth, women's empowerment, and sustainable development within the industry. The paper recommends Governments in Ghana and Burkina Faso to address gender disparities in the Shea butter value chain by improving women's access to resources and supporting cooperatives. Policies should promote sustainability through incentives and certification schemes, while infrastructure investment can enhance market access. Financial institutions should offer tailored credit, and research should focus on sustainable processing, gender equity, and Shea waste valorization.

Key Words: Shea Butter, Gender Dynamics, Sustainable Practices

INTRODUCTION

Shea butter, derived from the nut of the *Vitellaria paradoxa* tree, plays a critical role in the socio-economic landscape of West Africa, particularly in Ghana and Burkina Faso. It is a significant source of income for women in these regions (Amofa et al., 2024), who are deeply involved in the harvesting, processing, and commercialization of Shea products. In 2016, Ghana's Shea sector employed about 85% of rural women and contributes approximately 70% of rural household income (Adams et al., 2016). This employment figure has increased to, approximately 87.65% women within the active age range of 17 to 54 years (Aikins et al., 2018).

Around 500,000 households depend on Shea products for their livelihood. Between 2008 and 2016, Ghana exported an annual average of 76,687 MT of Shea kernels, earning \$22.6 million, and 32,410 MT of Shea butter, generating \$27.8 million (Opoku-Mensah, 2023). The global Shea butter market was valued at \$655.2 million in 2020 and is projected to reach \$2,408.7 million by 2030. Ghana's share in global Shea butter exports grew from 0.5% in 2013 to 5.1% in 2020 (GEPA, 2020). Ghana records an annual Shea butter production ranging from 50 MT to 150 MT (GEPA, 2020).

In Burkina Faso, Shea nut production ranges between 40,000 MT and 80,000 MT annually, depending on rainfall and other factors and more than 800 women are engaged in Shea nut processing (Peronny, 2000). Around 50% of the total annual Shea nut production is consumed locally, though data on exact consumption remains scarce (CIFOR Forests News, 2022). With an annual Shea nut production of 600,000 MT, the Shea sector generated approximately \$60 million for Burkina Faso in 2019 (CIFOR Forests News, 2022).

Despite the potential of Shea butter for economic empowerment and poverty alleviation, the processing of Shea butter faces numerous constraints that impede its full potential. This paper undertakes a review of these constraints and examines the prospects for enhancing Shea butter processing in Ghana and Burkina Faso. The specific objectives of the paper are;

1. To systematically investigate the constraints facing Shea butter processing in Ghana and Burkina Faso.
2. To identify and assess the prospects for economic growth and women's empowerment within the Shea butter industry.

METHODOLOGY

This paper adopts a systematic review methodology, analyzing various publication documents to assess the economic constraints and opportunities within the Shea butter industry in Ghana and Burkina Faso. By synthesizing findings from diverse sources, including peer-reviewed studies on sustainable agriculture and women's empowerment, the methodology identifies critical themes such as mechanization challenges, access to financing, and environmental impacts. The analysis of specific studies not only highlights recurring barriers and region-specific challenges but also underscores areas of opportunity for sustainable growth, offering a holistic view that informs practical recommendations for advancing the Shea industry, particularly for the economic empowerment of women in these countries.

The paper draws upon existing literature and case studies to provide a comprehensive understanding of the factors affecting the Shea butter industry and propose actionable pathways for its development.

RESULTS AND DISCUSSIONS

Shea butter processing is a vital economic activity in many African countries, particularly in Ghana and Burkina Faso, where it serves as an important source of income and livelihood for numerous households. The industry is mainly led by women (more than 80%) between the ages of 16 to 70, who are instrumental in the harvesting and production processes. While the Shea butter sector holds significant promise for community empowerment and economic development, it is confronted by numerous factors that impact its growth and sustainability. These factors include issues of gender, environmental problems, and market barriers among others.

Constraints

The Shea butter value chain is deeply entrenched in gender dynamics, with women predominantly involved in the labor-intensive, low-income initial stages of production, such as nut collection, drying, and manual processing (Friman, 2023; Simon et al., 2014). Despite women being the backbone of the industry, their role remains undervalued due to traditional processing methods that yield lower output and limit economic advancement (Opoku-Mensah, 2023). This gender disparity extends to the distribution of profits within the value chain, where men dominate the more lucrative midstream and downstream activities, such as aggregation, industrial processing, and export (Opoku-Mensah, 2023). As a result, women are often excluded from decision-making processes and opportunities that could lead to greater economic empowerment. Addressing this requires implementing gender-responsive policies that not only enhance women's roles within the value chain but also provide them with access to resources, training, and technologies that could increase productivity and income.

Traditional Shea butter production in Ghana and Burkina Faso is heavily reliant on fuelwood, which contributes significantly to deforestation and the subsequent loss of carbon sequestration (Jasaw et al., 2017). The environmental implications are far-reaching, affecting not only the local biodiversity but also contributing to climate change. The heavy dependence on fuelwood creates a trade-off with other essential ecosystem services provided by the Shea tree, such as the provision of non-timber forest products, erosion control, and the preservation of cultural values (Jasaw et al., 2017). The need for sustainable practices is urgent, requiring a shift towards improved stoves that use less fuelwood, sustainable harvesting practices, and the exploration of alternative energy sources, such as solar or biogas, to mitigate these environmental impacts.

The Shea butter industry remains largely traditional, with most processing being done manually. This reliance on manual labor, while culturally significant, severely limits production capacity and efficiency, making it difficult for producers to meet the increasing global demand (Bup et al., 2014). The limited adoption of semi-mechanized and mechanized production methods is due in part to the high cost of equipment, lack of technical knowledge, and resistance to change among some producers (Bup et al., 2014). This bottleneck in production

underscores the necessity for targeted investments in appropriate technologies that are affordable, user-friendly, and capable of enhancing productivity without compromising the quality of the butter. Moreover, training and capacity-building programs should be established to help women and other producers adopt these technologies effectively.

Access to finance remains a significant barrier for Shea butter processors, particularly women who dominate the sector (Mumin et al., 2023). The lack of access to credit and financial services limits their ability to invest in improved equipment, expand production, and enhance product quality. Furthermore, processors face challenges related to low sale prices, limited market access, and intense competition from larger, more established producers (Simon et al., 2014; Alhassan, 2020). These financial and market constraints are exacerbated by a lack of infrastructure, such as roads and storage facilities, which further limits market reach and leads to post-harvest losses. Addressing these challenges requires innovative financial solutions, such as microfinance schemes tailored to the needs of Shea producers, creating direct linkages between producers and financial institutions, and promoting fair trade practices that ensure producers receive equitable prices for their products.

The Shea sector in Ghana and Burkina Faso suffers from inadequate policy and regulatory frameworks that fail to address the specific needs of the industry (Alhassan, 2020; Awo, 2018). The absence of coordinated programs and policies, coupled with weak enforcement mechanisms, has hindered the growth and development of the industry (Awo, 2018). This policy vacuum leaves producers vulnerable to exploitation and market volatility. Moreover, the lack of standardization in Shea butter production results in inconsistent quality, which affects marketability. There is a critical need to develop and implement policy instruments that focus on the sustainable development of the Shea sector. This includes establishing quality control standards, providing incentives for sustainable practices, and fostering partnerships between government agencies, non-governmental organizations, and private sector stakeholders to support the industry's growth.

Prospects

The Shea butter industry holds significant potential for empowering women economically in Ghana and Burkina Faso (Friman, 2023; Simon et al., 2014; Tanzile et al., 2023). The industry's structure, which is heavily reliant on women, provides a unique opportunity to promote gender equality and enhance women's livelihoods. By providing women with access to improved technologies, financial services, and market opportunities, their economic status can be significantly improved (Tanzile et al., 2023). Furthermore, initiatives that focus on building women's capacity, such as training programs in business management, financial literacy, and product development, can help them move up the value chain, increase their income, and contribute to the overall economic development of their communities.

Transitioning towards sustainable Shea butter production practices is not only crucial for minimizing negative environmental impacts but also for ensuring the industry's long-term viability (Jasaw et al., 2017). Adopting improved stoves that reduce fuelwood consumption, promoting sustainable fuelwood harvesting, and exploring the use of alternative energy sources such as solar energy are essential steps in this transition (Jasaw et al., 2017). Additionally, implementing agroforestry practices that integrate Shea trees with other crops can enhance biodiversity, improve soil health, and provide additional income streams for farmers. The development of sustainable certification schemes could further incentivize producers to adopt environmentally friendly practices, thus aligning with global trends towards sustainability.

Adding value to Shea butter through processing and product diversification presents considerable opportunities for increased income generation and market expansion (Wardell et al., 2021; Naangmenyele et al., 2023). Currently, most Shea butter is exported in its raw form, which limits the revenue generated by producers. By investing in research and development, new Shea-based products with higher market value can be created, including cosmetics, pharmaceuticals, and specialty foods. Furthermore, developing local processing industries can help retain more value within producing countries, create jobs, and stimulate economic growth. Encouraging collaborations between local entrepreneurs, research institutions, and international companies could lead to innovative products that meet global market demands.

Effective institutional support is critical for the development of the Shea sector (Alhassan, 2020; Awo, 2018).

This involves the coordination of programs and policies among various stakeholders, including government agencies, non-governmental organizations, and private sector entities. Strengthening regulatory frameworks to ensure quality control, providing technical assistance to producers, and promoting industry-wide standards are essential for the sector's growth (Awo, 2018). Additionally, establishing producer cooperatives and associations can enhance bargaining power, improve access to markets, and facilitate knowledge sharing among producers. These cooperatives can also play a vital role in advocating for policies that support the interests of small-scale producers.

Research on Shea butter waste reveals its potential for valorization, offering a pathway to minimize environmental impact and generate additional income streams. Shea butter production generates a significant amount of waste, including wastewater, shells, and residual oil (Amofa et al., 2024). The wastewater, for example, contains valuable compounds like residual oil and secondary metabolites, which can be extracted and utilized in the cosmetics and pharmaceutical industries (Amofa et al., 2024). Furthermore, the shells can be processed into biochar, which can be used as a soil amendment or as an energy source. By developing innovative methods for waste valorization, the Shea industry can not only reduce its environmental footprint but also create new economic opportunities for producers.

CONCLUSION AND RECOMMENDATIONS

The Shea butter processing industry in Ghana and Burkina Faso faces significant constraints, including gender inequality, environmental degradation, limited mechanization, financial and market barriers, and weak institutional support. However, the industry also presents substantial prospects for economic growth, women's empowerment, and sustainable development. Realizing these prospects requires a multi-faceted approach that addresses the identified constraints and leverages the industry's inherent strengths. By prioritizing sustainable practices, investing in appropriate technologies, empowering women, and fostering a supportive policy environment, Ghana and Burkina Faso can unlock the full potential of their Shea butter industries.

Governments in Ghana and Burkina Faso should develop and implement policies that specifically address the gender disparities within the Shea butter value chain. This could include providing women with greater access to financial services, land ownership, and training in advanced processing techniques. Policies should also support the establishment of women-led cooperatives and associations, which can increase their bargaining power and market access.

Policymakers should introduce incentives to promote sustainable Shea butter production practices. This could include subsidies or grants for the adoption of improved stoves and alternative energy sources, as well as tax breaks for producers who engage in sustainable fuelwood harvesting. Additionally, the establishment of certification schemes for sustainably produced Shea butter could help producers access premium markets.

To overcome the financial and market constraints faced by Shea butter processors, particularly in rural areas, there is a need for significant investment in infrastructure. Governments and development partners should prioritize the construction of roads, storage facilities, and processing centers that can help reduce post-harvest losses, improve market access, and enhance the overall efficiency of the value chain.

Financial institutions should be encouraged to develop tailored financial products for Shea butter producers, especially women. This could include microfinance programs, low-interest loans, and credit schemes that account for the seasonal nature of Shea butter production. Governments could also consider establishing guarantee funds to reduce the risk for lenders and encourage them to provide credit to small-scale producers.

Further academic research should focus on developing and disseminating affordable, efficient, and culturally acceptable technologies that can enhance the productivity and environmental sustainability of Shea butter processing. This includes the development of improved stoves, mechanized equipment suitable for small-scale producers, and alternative energy sources such as solar-powered devices.

Additional studies are needed to explore the gender dynamics within the Shea butter value chain more deeply. Research should investigate the barriers to women's participation in higher-value segments of the chain and

propose interventions that can help bridge the gender gap. Understanding these dynamics can inform more effective policies and programs that promote gender equity.

Academic research should also focus on the valorization of Shea butter waste products. Exploring the potential uses of Shea waste in various industries, such as cosmetics, pharmaceuticals, and agriculture, can provide new income streams and contribute to a circular economy. Studies should examine the economic feasibility and market potential of these waste-derived products.

By addressing these recommendations, stakeholders can work together to create a more sustainable, equitable, and profitable Shea butter industry in Ghana and Burkina Faso, ensuring that the benefits of this valuable natural resource are fully realized for current and future generations.

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